Chapter 12

Challenges of the MDG system

Much progress has been made by the 46 selected small states in the pursuit of the Millennium Development Goals. Despite this, however, the 10 benchmark states have by and large surpassed the small states covered in this study. Meanwhile, the microstates with populations of less than 100,000 have been left well behind in the overall league tables. However, this is an incomplete picture, clouded by the fact that a substantial amount of data are missing.

Within the broader context of progress towards sustainable development, the MDG system has severe limitations, in that it excludes much vital macroeconomic and social data. For economically and environmentally vulnerable states this presents fresh challenges to measuring progress. For example, the MDGs do not cover issues relating to climate change and sea level rise, disasters, waste management, coastal and marine management, or tourism.

The MDG system lacks an evidence base relevant to the specific interests of small and island states. Ecological biodiversity is touched on only lightly in reporting, as are the implications of the vulnerability of such states and their limited capacity for economic resilience. In ignoring population size, too, the MDGs defy economic analysis, just as they fail to consider the resources needed for the pursuit of targets. Some SIDS have been developing their own performance indicator systems to overcome such shortcomings in the MDGs and this has been encouraged by the UN.

Examples are given in Annex 3 from Singapore, Malta and Mauritius, but for many small states the MDGs are simply not at the heart of policy review processes or budgetary decision-making. These issues are being explored through the Islands and Small States Institute (ISSI) of the University of Malta, supported by the Commonwealth, and by the EU through a new SIDS project centred in Mauritius,[1] and are closely linked to the work of the UN Department of Economic and Social Affairs (UNDESA) for monitoring implementation of the 2005 UN Mauritius Strategy and identifying and testing models of best practice.

12.1 MDGs back on the menu?

In the early unfolding of the global financial and economic crisis, the response of governments was all about banks and bailouts. But by June 2009 international talk was at last including the MDGs. The UN meeting of 24–26 June 2009 reviewed the goals within the context of the global crisis, and officially reaffirmed the international pursuit of the UN's Millennium Development Goals.

Since then there has been a round of meetings in 2010 on MDGs and sustainable development, including reviews of progress on the Barbados Programme of Action and the implementation of the 2005 UN Mauritius Strategy for SIDS. This report examines progress with the MDGs and explores the implications of national and regional commitments for improved performance, using real numbers and putting the needs of people at the core of policy.

For example, MDG 7 (target 10, indicator 31) is to halve the proportion of the population without access to safe sanitation. Overall, the proportion of people without safe sanitation is about one-third of the world population. But the policy message became so much more direct in an iconic marketing poster for the UN Year of Sanitation 2008, which declared: 'Hurry up! 2.6 billion people want to use the toilet'. The slogan was backed up by a major global campaign and pressure on all governments to take action.

At the core of the next stage of action on MDGs must be the recognition that behind the data there are real individuals who are in need. Across the 46 small states there are over 10 million people without access to safe water and 22 million without access to safe sanitation. The principal problems of provision are in Haiti, Dominican Republic, Papua New Guinea, Cuba and Namibia. Using such numbers, rather than percentages, helps to focus attention on where action is needed to tackle the greatest need.

12.2 Missing data

Missing data are a major obstacle in reporting the facts from the UN database. Downes' (2006) assessment of progress on achieving the MDGs across Commonwealth small states found that 29 per cent of the overall data were missing. In its regional African assessment of 53 states (Chenje et al. 2006), the UNEP found that for the seven indicators examined, covering five of the eight MDGs, missing data ranged from 2 per cent on MDG 4 (child health) to 74 per

cent on MDG 2 (education). In another assessment for the AIMS group of countries,[2] data were missing for 48 per cent of the MDG indicators, inhibiting an assessment of progress (Roberts 2011).

In the present review of small states, 44 per cent of required data are missing, while 27 per cent are absent for the ten benchmark states. The range of missing data for the 46 small states is between 71 per cent on MDG 1 (poverty) to 1 per cent on MDG 4 (child health). For the benchmark states, the range is from 53 per cent missing on MDG 5 (major disease control) to 0 per cent on MDG 4 (child health).

12.3 Waiting for data

MDG data, if not missing, are usually old and out of date. In July 2010 the latest statistics for the MDGs were for 2008, with much data only available for 2006. In contrast, macroeconomic data on growth and employment figures are often available on a six-monthly or quarterly basis. To make things more difficult, updates in the UN MDG database are quite sporadic and sometimes displace previous data, which confuses those trying to track trends and make assessments of progress.

As a consequence of the lag, the latest MDG figures reported here are mostly for the time before the global economic crunch. Today we are only just beginning to track the impact of the crisis on implementation of the MDGs.

12.4 National commitment to the MDGs

National budgets are where government policy is translated both into financial commitments and fiscal instruments for achieving welfare ends. Immediately following the financial crisis, many countries used the 2008 and 2009 budget statements to focus on government taxation and expenditure to get back on-track.

Some governments, such as those of Botswana and St Lucia, have made provision for sustainable development, financing environmental management and investment, covering pollution, waste and nature parks, and fiscal instruments for promoting renewable energy and energy efficiency. Singapore gives priority to its urban planning; Malta is targeting an eco-friendly programme on climate change; and Mauritius has new priorities for environmental sustainability.

Several of the 46 selected small and island states have financially committed to poverty relief. For instance, Cuba has a domestic food production programme using released government surplus land. Botswana has an integrated poverty relief and housing programme, while Mauritius has a policy initiative on saving jobs linked to a sustainable development strategy. St Lucia has a package through the 'Puenti' poverty relief scheme based on experience from Chile.

Nevertheless, few small states specifically mention the MDGs as a priority for government spending. The statistical MDG targets have been largely dropped from political discourse and there is seldom any mention of target dates. But many states are still tackling the same issues covered by the MDGs, only using alternative language to describe them.

Examples of action at state level are presented in the body of this report. After ten years of endeavour, however, this hardly adds up to a systematic global effort with international, national, regional and national activities to reach the targets by the agreed dates, as was intended in New York well over a decade ago.

Set out below are ways in which the MDG system could be adapted and more closely integrated with present day policy-making and resource allocation.

12.5 Adapting the MDG system to the needs of small states

Since the inception of the MDG system and the launch of the 2005 UN Mauritius Strategy of Action for the Further Implementation of the Programme of Action for the Sustainable Development of SIDS, the language of national governance has changed, principally due to the global economic crisis. Discourse now places a greater focus on financial inputs and fiscal control than on social, health and environmental priorities.

One lesson from the crisis is clear. From a global perspective, the MDGs are 'old hat' and we may need a new paradigm for monitoring progress towards sustainable development integrated within the mainstream of political debate. Yet for small and island states the deficiencies of the MDGs go far beyond this.

12.6 A new technical and planning framework

The pursuit of both the MDGs and the Mauritius Strategy for Implementation needs to be structured within an economics framework. The targets need to be understood in terms of concrete numbers to

aid financial commitments and technical delivery. Knowing that there are 2.6 billion people waiting for a toilet illuminates the problem, but we then need to know where these people are, what sort of toilets they need, how this task can be achieved logistically, what physical and human resources are required, and what are the medium-term, as well as the longer-term, economic, environmental and social benefits.

12.7 Inter-state inequality

In this process of planning there are other key issues that must be addressed to resurrect the MDGs, including revisiting equality and resource use efficiency. The lack of an economics framework for the pursuit of targets not only hinders management, but also conceals the perpetuation of interstate inequality.

Take the disparity between infant mortality in Guinea-Bissau and Singapore. A baby born in Guinea-Bissau in 1990 (IMR 142) was 23 times more likely to die in the first year of life than one born in Singapore (IMR 6). This inequality is reinforced in the MDG target for 2015 which is relative to baseline. The target for Guinea-Bissau is IMR 47, while for Singapore it is IMR 2. So even if the goal was achieved, a baby would remain 23 times more likely to die in the first year of life in the former than the latter.

Perpetuation of inter-state inequalities is found in other targets set for MDG 1 (poverty relief), MDG 5 (maternal health), MDG 6 (disease control), and MDG 7 (safe water and sanitation), none of which prescribe universal targets.

12.8 Intra-state inequality

The MDG system relies on reporting by UN member states and does not in general examine demographic variations within state boundaries. The framework does not require reports on variations between regions within countries, or between rich and poor populations.

Exceptions to this are in MDG 3 (gender equality), which covers differences between genders, MDG 6 (disease control), which encompasses specific age groups, and MDG 7 (environmental sustainability), which covers variation between urban and rural populations.

The MDG system is flawed as an aid to international policy development (WHO 2003: 34), as it is unlikely that national improvements in health, for example, have been evenly distributed between rich and poor. The richer are likely to be healthier and the poor to suffer from greater ill health, but it is difficult to substantiate this within the existing framework. MDG 1 (poverty relief) shows the numbers living in poverty, but these data cannot be cross-analysed against performance on other indicators, such as those on education, health and environment.

It is open to states to provide these broader comparisons by developing sub-national databases, but with 44 per cent of national data from the 46 small states missing, this seems at best hopeful. In developed countries there are numerous political obstacles to reporting intra-country inequality, especially on health, education and environmental quality.

12.9 Differing pressures of population growth

Another serious omission is the consideration of population statistics. Across the small states, population growth varies greatly. Mauritius, with an annual population growth rate of 0.8 per cent, is likely to increase its population within the next ten years by as much as the current total population of Seychelles.

Take two Commonwealth small states with similar sized populations in 2006.[3] The Gambia (population 1.7 million) has an annual population growth rate of 4.1 per cent, while Trinidad and Tobago (population 1.3 million) has a growth rate of 0.2 per cent. However, by 2015, assuming the rates of increase continue, The Gambia's population is likely to swell by 724,000 (43%) while that of Trinidad and Tobago is set to increase by only 24,000 (2%).

Meanwhile, some Commonwealth small states have a history of population decline since 1990, such as Dominica and Guyana. Population change is a core element in national budget assessments and so should be central in planning to meet targets for sustainable development and the MDGs.

12.10 Appropriate technology for intervention

The link between technical means and cost is poorly defined, whether delivery is through the market or public works. Assessing the price of poverty relief through education, training and shelter is complex. The practical challenges of extending safe water and sanitation to scattered islands differs greatly from that of delivering it to urban areas and this will be reflected in varying costs.

Disaster recovery, protection from beach erosion and climate change mitigation all require an extension of the evidence base, as well as professional development to design and accomplish the changes required. This is also true within the more restricted field of the MDGs as action points for sustainable development.

Innovations in science and professional work are likely to be best undertaken at local level and must utilise regional partnerships to ensure that remedies are relevant to the specificities of beneficiary countries. Conceptual developments in this field also require new approaches to model building.

12.11 Predicting the impact of economic change

A model is presented in Figure 7.5 for SIDS on the relationship between PPP GDP per capita and the infant mortality rate. This indicates a close association between the two. The point of inflexion at a little over US$5,000 per head suggests a sharply declining fall in IMR as GDP per capita rises.

The model can also be used to predict the impact of the financial crisis on IMR as GDP falls. For richer countries such as Singapore, Cyprus, Barbados and Mauritius, a major fall in GDP per capita of between 50 and 200 per cent would need to occur to increase IMR to above 20 per 1,000. But for the poorer countries closer to the inflection of the curve, such as Jamaica, Fiji and Cape Verde, much smaller reductions in GDP might have a greater impact, producing increases of IMR from 20 per 1,000 to 50 per 1,000 and beyond.

Let us examine the rather bold assumptions inherent in the model. It assumes that the association is causal, operates in both directions and that the cross-sectional data reflect longitudinal relationships. It also predicates that the underlying causal factors affecting IMR would be reversible with falling GDP (i.e. breastfeeding, food security, access to safe water and sanitation, and access to effective primary health care and to emergency care for babies and mothers at risk).

It seems unlikely that in a short recession, falls in GDP per capita would be associated with increases in IMR, especially in the more prosperous countries. But in very poor countries, where food security is seriously affected and where high population growth is reducing GDP per capita, IMR could rapidly increase with small reductions in GDP.

Under the MDG process, an assessment of costs has been undertaken at a global and regional level, but none of the detailed work takes into account the special circumstances of SIDS. For example, infant deaths can be reduced in poor countries with high infant mortality by increasing safe water and sanitation and other low-cost public health measures, rather than through the high-cost technology interventions required in developed countries with a low IMR. Policy-makers, using the MDGs as a tool, need to consider both the technical requirements for intervention as well as marginal and total costs and benefits.

12.12 Models for development

Economic development has long been associated with increasing pressure on the environment. But it has been argued that this process should be decoupled, as the marginal value of natural resources and environmental protection increases with rising income and social development (Roberts 2010).

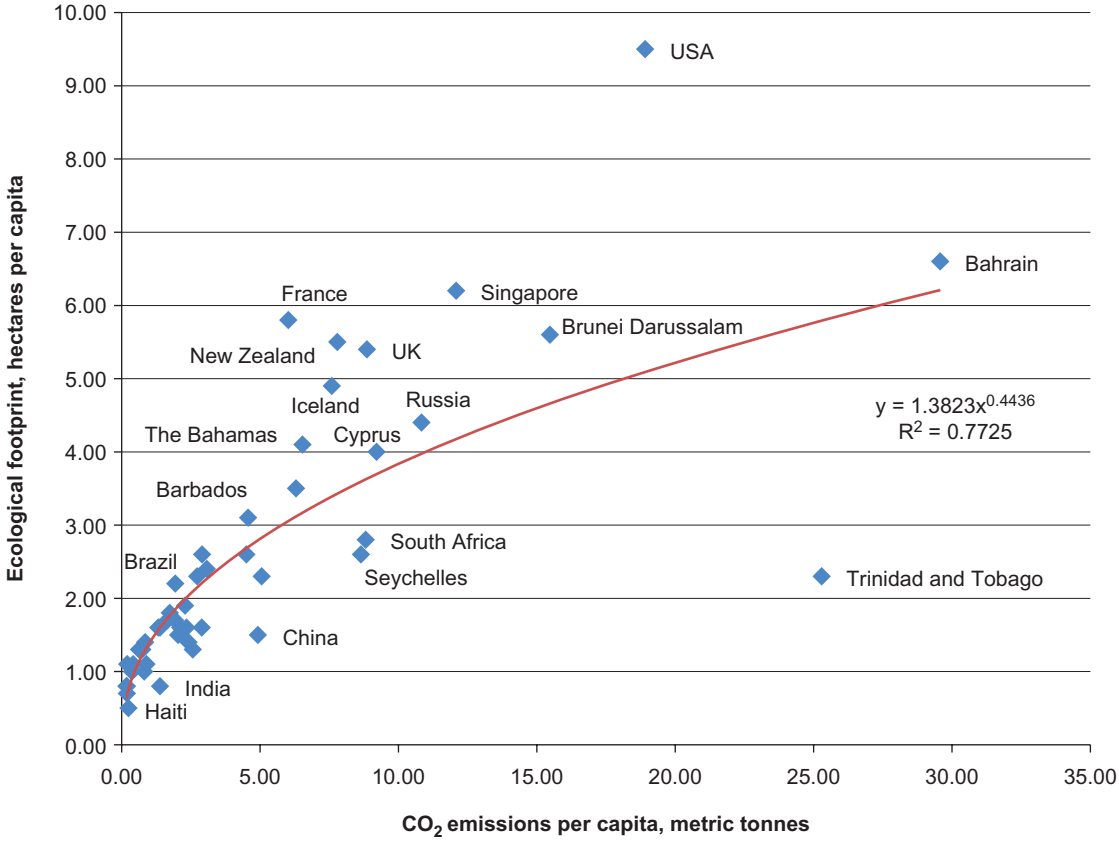
MDG 7 (environmental sustainability) tracks the levels of CO_2 emissions per capita as a marker of environmental pollution and increasing use of fossil fuels as a common feature of economic growth. This review finds that across the 46 small states and the 10 benchmark states, CO_2 emissions per capita are strongly positively associated with GDP per capita (see Figure 10.6). But at the same time certain states have lower levels of emissions than expected from their level of GDP per capita, notably Singapore, UK, Iceland and France.

This indicates a decoupling of development from adverse environmental externalities. In contrast, other states in the review continue to have higher levels of CO_2 emissions than would be expected from their level of GDP per capita, especially Trinidad and Tobago, Bahrain and Russia. Meanwhile, other small and low-income states have low levels of CO_2 emissions. The development model for the future of the planet should be focused on avoiding an increase of environmental pressure as a by-product of economic growth.

The New Economics Foundation has developed new ways of measuring development, welfare and natural resources impacts, including the ecological footprint,[4] in its Happy Planet Index.[5] Combining the data from the first HPI report with latest CO_2 data in this review indicates that a country's ecological footprint is strongly associated with its level of CO_2 emissions (see Figure 12.1).

States such as the USA, Singapore, France and the UK are shown to have heavier ecological

Figure 12.1 CO_2 emissions per capita and ecological footprint



Sources: UN MDG database 2010 and NEF 2006

footprints than would be expected from their CO_2 emissions. This is consistent with the view that they have been relatively successful in decoupling air pollution from economic development, but have yet to attend to other aspects of production and consumption that put adverse pressures on the environment. In this respect, the USA has a lower level of CO_2 emissions per capita than Trinidad and Tobago, but it has nearly five times the ecological footprint.

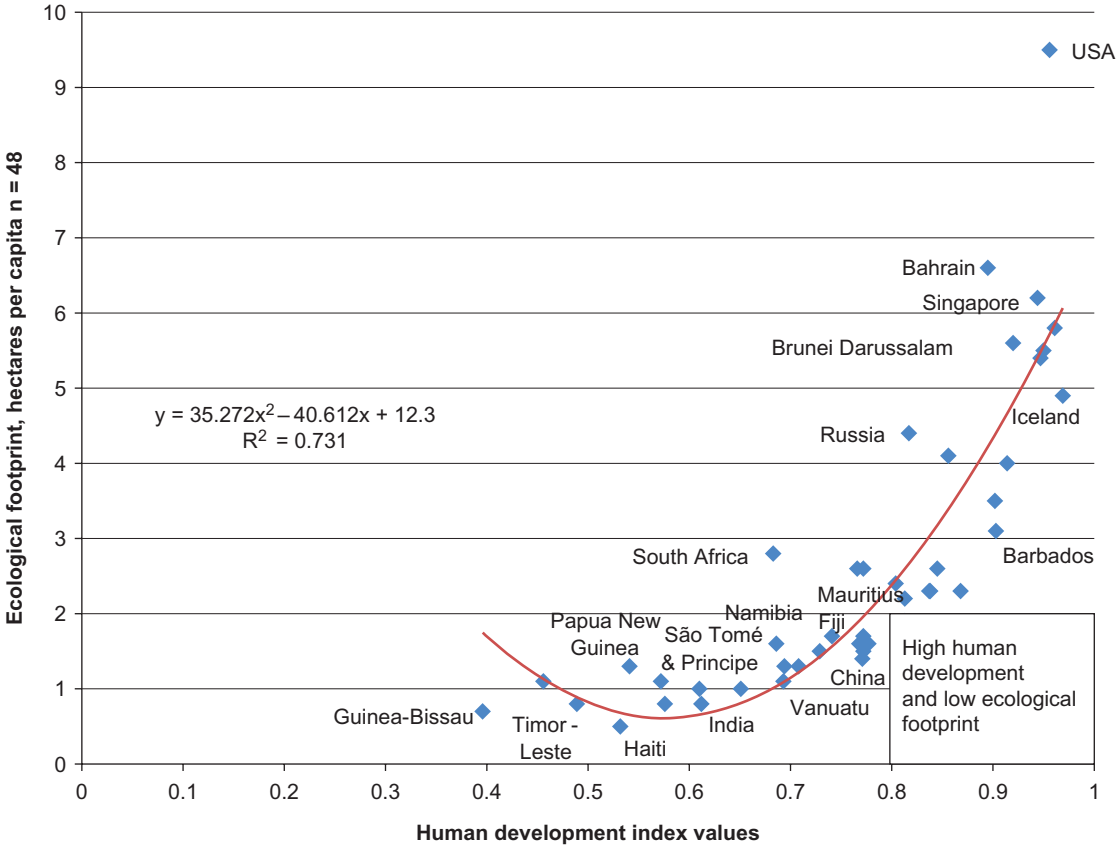
If other states were to follow the pattern of natural resource use of heavier footprint countries the result would be globally unsustainable. The New Economics Foundation recommends that a reasonable target footprint for sustainable development is 1.5 hectares per capita. The more developed small states, such as The Bahamas, Bahrain, Barbados, Cyprus, Seychelles and Singapore, exceed that value. It is important that these countries aim to reduce their ecological footprint, and others restrain any further rise in their footprints in the pursuit of higher levels of economic and social development.

Sustainable development in small states with limited available land depends on two factors: the quality of the environment, especially where tourism is a major sector; and the curtailment of population growth and density. The development model for these countries should therefore embrace ecological integrity and social welfare.

The UNDP Human Development Index,[6] as a measure of human welfare, is strongly associated with the ecological footprint of states (see Figure 12.2). The relationship shown in this review is consistent with the view that in the early stages of development the ecological footprint declines as human development increases. This may be attributable to demographic change in which more children survive but have a lower ecological footprint than adults, reducing the per capita pressure on resources.

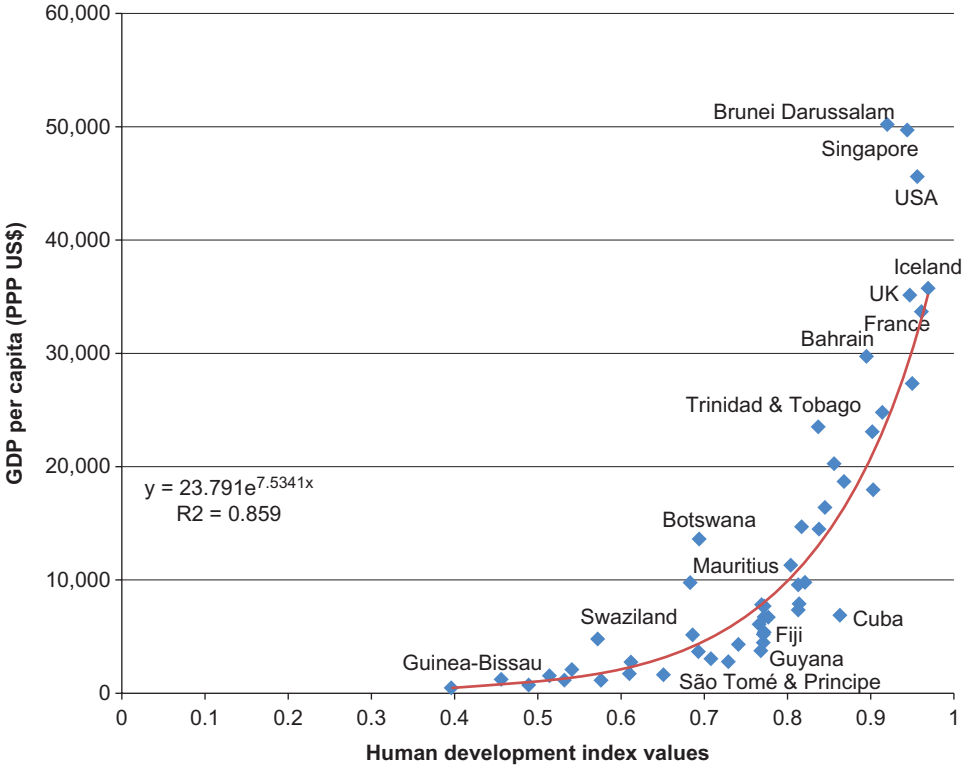
After reaching an HDI of 0.6 – the level of Papua New Guinea and India – the ecological footprint rises steeply with incremental increases in human development. This pattern is consistent with the relationship between HDI and GDP (Figure 12.3), where increasing levels of HDI are associated with a sharply rising level of national income per capita, and with patterns of consumption and production that put increasing pressure on the environment.

Figure 12.2 HDI and ecological footprint



Note: n = number of countries.
Sources: UNDP 2010 and NEF 2006

Figure 12.3 HDI and GDP per capita



Sources: UNDP and UN Statistics Division 2010

In its exploration of the policy issues surrounding the use of natural capital, UNEP has set out a model for the promotion of a 'green economy' in which it highlights the dilemma of matching human development to the bio-capacity of the planet.[7] UNEP sets out the case for the valuation of natural capital and the consequences of misallocation in terms of effects on the potential benefits of well-husbanded natural resources.

It stresses the importance of renewable energy, low carbon technology, waste recycling, resource use efficiency, sustainable urban living, low carbon mobility, and restoration by the ecosystem of animal, plant and pollinator species. In this respect UNEP calls for improved governance and investment in the greening of economic sectors. In stressing the linkage between human development and the ecological footprint, it sets out the target for achieving high human development (≥ 0.8 HDI) and a low ecological footprint (≤ 2 EF).

Applying this target to the 46 small states and 10 benchmark states in this review (as shown in Figure 12.2), it is evident that those countries above the boxed area defined by these target limits have the challenge of reducing their ecological footprint without impairing their level of human development. Those states to the left of the boxed area have the challenge of promoting human development without exceeding the low ecological footprint which they enjoy. Those states that fall within the boxed area have the more enviable challenge of consolidating human development within the target ecological footprint that they have already achieved. These latter states are Cuba, Dominica, Grenada and St Lucia. Others close to this include China, Fiji, Guyana, Maldives, Tonga and Vanuatu.

Vital elements at present fall beyond the scope of the MDG system. For example, assessment of the ecological footprint falls outside its scope, although CO_2 emissions provide a marker. Moreover, of the three elements in the UNDP Human Development Index only education is included in the MDG system, while GDP per capita and life expectancy fall outside its scope. In addition, from a global perspective, demographic change, especially population increase, is a necessary marker for the assessment and projection of the ecological footprint and its consequences for sustainable life on earth.

The MDG system is a distorting lens for monitoring progress and it is hoped that the current World Bank and UNEP project established in 2009 will provide a more comprehensive method of accounting for natural capital as part of the process of tracking sustainable development.[8] This could be a useful index that complements the ecological footprint concept.

However, the model of development pursued by Marks et al. within the New Economics Foundation concept goes beyond the framework of the MDG system, the proposed targets for the HDI and ecological footprint and the use of GDP as markers for human progress. The New Economics Foundation adds to these concepts a measure of human welfare incorporated in the Happy Planet Index. This index combines life expectancy and the ecological footprint with a measure of life satisfaction assessed by social surveys undertaken at state level throughout the world.[9] Figure 12.4 shows the Happy Planet Index and GDP per capita for 35 of the states in this review. It shows that the efficiency with which these states extract human welfare, as defined in the HPI, is inversely related to GDP per capita. Thus small island states such as Vanuatu, St Lucia and Jamaica have a higher level of HPI, but a lower GDP per capita, than benchmark states such as the UK, the USA, Iceland and New Zealand, and a higher level of HPI than more wealthy developed island states such as Singapore and Bahrain.

In further developments in providing indicators for the pursuit of sustainable development, it is important to ensure that measures of human welfare and more comprehensive assessments of the pressure on the environment are matched with the indicators and targets within the MDG system. In doing this it becomes apparent that while this review shows that progress with the MDGs by the small states is below that of the benchmark states, there is much else which, if included in the accounting system, provides good news for the state of human welfare and that of the environment in these small and vulnerable states.

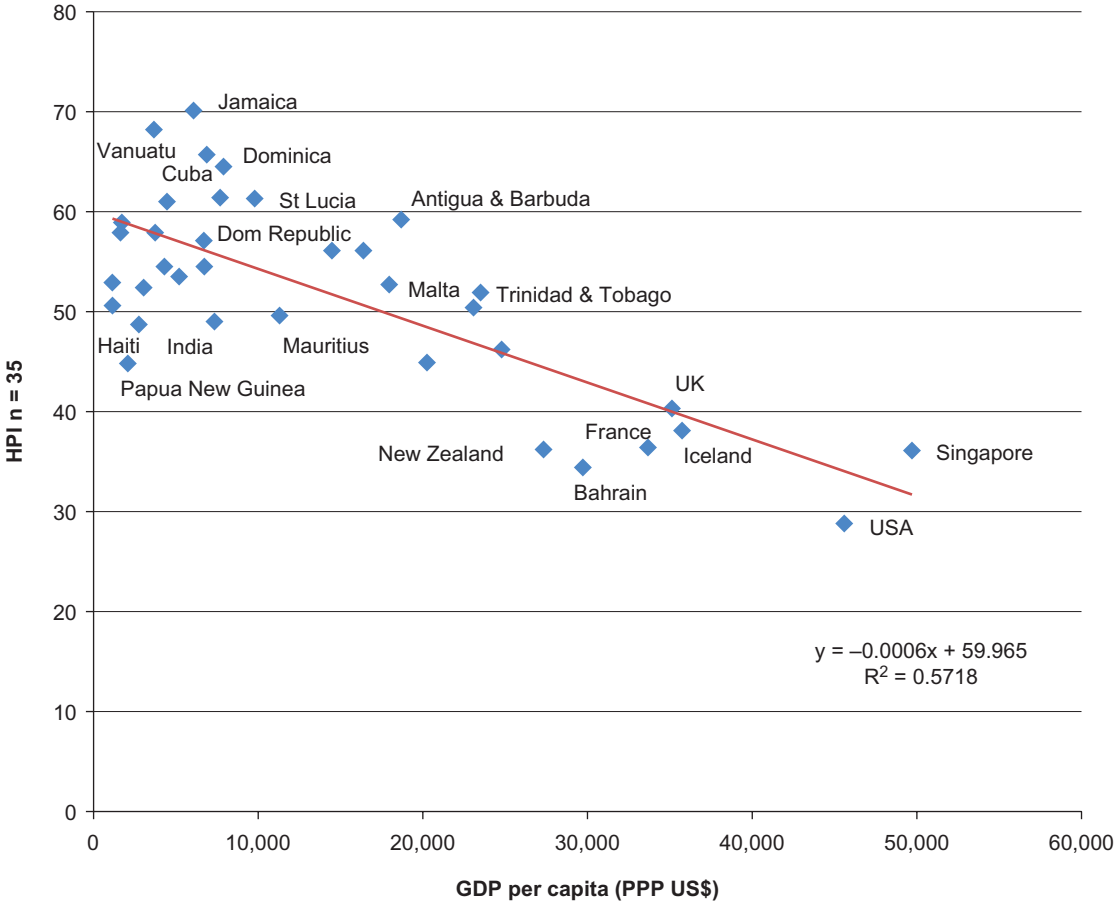
12.13 Tools for planning

The MDG system requires the adoption of specific tools. Some of these are considered below.

12.13.1 Denominators

Many of the indicators in the MDG system and their related targets are expressed as ratios or percentages without reference to the denominators on which they depend.[10] This has the effect of concealing the size of the difference in tasks presented to different countries in achieving their targets.

Figure 12.4 GDP per capita and HPI



Sources: UN data 2010 and NEF 2006

For example, an increase of the ratio of protected areas in Guinea-Bissau by 1 per cent of total land amounts to 361 square kilometres; in Seychelles 1 per cent of land is a mere 6 square kilometres. Where the targets and the denominators also vary greatly, the size of the impact can be further magnified.

A two-thirds reduction in IMR deaths in Guinea-Bissau would save nearly 6,000 lives; in Singapore a two-thirds reduction of IMR would save 40 lives. The identification of the hidden denominators is a key step in the process of policy development in the pursuit of the MDG targets and the assessment of national and regional impacts and relative priorities.

12.13.2 Cultural values and target relevance

The MDGs are indifferent to cultural variation and offer targets for all states that may not be supported in national policies. For example, under MDG 2 (education) all countries are pressed to ensure universal enrolment in primary education. But this may be in conflict with national and local cultural and demographic factors.

In Malta, where only 15 per cent of the population is under 15 years of age and where only 3 per cent of GDP is derived from agriculture, the country has 94 per cent enrolment in primary education. In Guinea-Bissau, where 48 per cent of the population is under 15 years of age and 69 per cent of GDP is derived from agriculture, only 55 per cent of children are enrolled in primary education.

In such countries, helping with farm work is part of cultural education and is used to prepare young boys and girls for their roles in family and community business. Cultural values and demographic factors can therefore affect enrolment at school, acting as constraints on change and limiting the impact of investment in educational facilities.

For cultural reasons, politics in some countries has not been a field of activity for women. Seychelles and Bahrain have nearly identical educational enrolment and literacy levels; however, in the former, 29 per cent of national parliamentary seats are held by women, while Bahrain has none. Here cultural values doubtless have a major effect on

the disparity in representation. These values serve as strong constraints on change and detract from the UN-instituted targets, which may not exist as priorities at national level.

12.14 Policy implications

Some light has been shone on the gaps in service provision for selected targets within the MDG system (for instance, hunger, child health, forest cover, air quality and safe water) (Roberts 2011). This review shows that for the 46 small states to meet the targets (see Table A1.17):

- 7 million undernourished people need to be better fed (MDG 1, target 1C, indicator 9);[11]
- 30,000 infant lives need to be saved each year (MDG 4, target 4A, indicator 2);
- 48,000 square kilometres of forest cover should be re-established (MDG 7, target 7A, indicator 7.1);
- 71 million tonnes of CO_2 emissions should be cut (MDG 7, target 7A, indicator 7.2.1);[12]
- 5 million more people should be provided with safe water (MDG 7, target 7C, indicator 7.8);[13] and
- 13 million people are waiting for a safe toilet (MDG 7, target 7C, indicator 7.9).[14]

The report also shows that within the 46 selected small and island states over 80 per cent of the undernourished people in 2005 were from just six (13%) of the states (Haiti, Dominican Republic, Cuba, Botswana, Guinea- Bissau and The Gambia). Around 80 per cent of the infant lives to be saved to meet the 2015 target were also in only eight (17%) of the 46 countries (Namibia, Papua New Guinea, Haiti, Guinea-Bissau, The Gambia, Dominican Republic, Lesotho, Namibia and Swaziland).

Ninety-nine per cent of the forest cover to be re-established was in just six (13%) of the small states (Papua New Guinea, Botswana, Solomon Islands, Timor-Leste, Guinea-Bissau and Brunei Darussalam). Meanwhile, nearly 80 per cent of the CO_2 emissions needing to be cut came from seven (15%) of the countries (Trinidad and Tobago, Dominican Republic, Bahrain, Singapore, Jamaica, Cyprus and Namibia). Lastly, over 88 per cent of the safe water required was for just five (11%) of the states (Papua New Guinea, Haiti, Dominican Republic, Cuba and Guinea-Bissau).[15]

These statistics bear out the real needs of the people of the 46 small states and the implications of deficiencies in the MDG system. It is hoped that this form of presentation can help to promote reassessment of priorities at national and regional levels.[16] This approach can become integrated into national governance where MDGs are adopted as key indicators for policy development and where an integrated planning and economics appraisal method can be adopted on the lines set out below.

12.15 Next steps in policy development

The next steps in policy development, building on the evidence from the MDGs and related data systems for the 46 small states, should be to:

- Remedy the problem of 44 per cent missing data;
- Integrate the pursuit of MDGs and related policy issues within the mainstream of regional, national and sub-national performance assessment and resource allocation;
- Assess the technical interventions required to deliver the services, including the resources required, financial plans, financial mobilisation, capacity building, management arrangements, involvement of public and private sectors and NGOs, the need for capital infrastructure, equipment, human resources, management and maintenance and environmental, economic and social impacts;
- Calculate the total and marginal costs of development activities, including the expected timescale of expenditure and realisation of benefits;
- Develop strategic and operational plans and monitoring mechanisms within national financial policy timescales required for establishing inter-sector political, financial and social support for the proposals;
- Promote plans through the mainstreaming of annual and medium- term resource allocation; and
- Review progress and revisit policy, resource allocation and technical management procedures in light of the results.

12.16 Adapting the MDGs to local priorities

The MDGs at country level are now being adapted to local national and regional needs. This should

include reviews of the arbitrary nature of the baselines and the arithmetic of target calculation; the absence of an economic context for reviewing priorities; the variation in technical requirements at national level; and the other broader issues of development capacity that are the main constraints on political commitment to implementation.

Despite the modest levels of economic and social development in some SIDS, recent analysis shows that their ecological footprint is generally lower. In addition, their efficiency in securing human welfare, in terms of length of life and satisfaction, exceeds that of many developed countries. In the Happy Planet Index, Vanuatu comes out top, while the UK and USA have poorer results, at 108th and 150th respectively (Marks et al. 2006). If life in SIDS is beautiful but costly,[17] many local people seem to like it that way. So their pathway to development and their policy toolbox should be oriented accordingly.

Most SIDS are facing pressure from increasing population. The population of the 46 small states is expected to increase. But the pattern is uneven. In a few of the small states, including Guyana[18] and Federated States of Micronesia, the population is slightly declining, by about 0.1 per cent per year, while others, including Comoros, Guinea-Bissau, Kiribati and Timor-Leste, have growth rates of 2 per cent a year or more.

Population growth in any small state presents the prospect of an increasingly heavy ecological footprint with increase in population densities, and more physical infrastructure imposing itself in terms of housing, schools, roads, transport, waste production and energy use. Such vulnerable environments make the need to respond to these pressures in an ecologically sustainable manner even more urgent. Demographic change is not included in the MDG system, although it is a fundamental factor in the pursuit of global, regional and national policy on sustainable development.

Notes

1 The EU SIDS project is located at the Indian Ocean Commission in Mauritius and covers Comoros, Madagascar, Mauritius, Seychelles, Zanzibar (Tanzania) and Réunion Island (France). It will focus on climate change, disaster insurance, sustainable development policy and coral reef rehabilitation.

2 The 11 states of the AIMS region defined here include the original SIDS of Malta and Cyprus, which have now joined the EU. The acronym AIMS is derived from the initial letters of the names of the maritime areas in which the 11 AIMS states are located: Atlantic, Indian Ocean, Mediterranean and South China Seas.

3 Commonwealth Secretariat (2009), Small States: Economic Review and Basic Statistics, Vol. 14, Commonwealth Secretariat, London.

4 The ecological footprint is a measure of the per capita use of natural resources, which is expressed in terms of the amount of land per capita required to sustain a given population at its given levels of consumption, technical development and resource use efficiency. It derives from a concept developed by William Reese and Mathis Wackernagel at the University of British Columbia. The principal elements in the ecological footprint are land use to grow food, trees and biofuels, areas for ocean fishing and land required to support plant life to cope with waste such as carbon emissions from fossil fuels. See www.ecologicalfootprint.org and www.redefiningprogress.org

5 See www.happyplanetindex.org. A second report on the HPI was published in 2009, but does not include small and island states with a population under 1 million. The figures used in this review are from the 2006 report.

6 The Human Development Index was established by UNDP as a global measure in 1990. The index combines life expectancy, educational attainment and national income per capita.

7 UNEP (2011), Towards a Green Economy: Pathways for Sustainable Development, and Poverty Eradication, available at www.unep.org/greeneconomy

8 For progress on this project and governmental responses, see www.globeinternational.info/wp-content/uploads/2010/09/GLOBE-Nagoya-Parliamentarians-Forum-Summary-Report-FINAL1.pdf

9 The elements in the Happy Planet Index by country are: mean life satisfaction score x expectation of life/ecological footprint. The function is per capita lifetime wellbeing per unit use of natural resources. See www.neweconomics.org/projects/happy-planet-index

10 For example, if 10 per cent of the population of a country with a population of 4 million is without safe water, 400,000 people are without safe water; if 10 per cent of the population of a country with a population of 100,000 is without safe water, 10,000 people are without safe water. To know the difference in need for planning purposes we need additional information to that found in the MDG system. To translate percentages back to whole numbers of people in need we need to know total population figures, the denominators from which they were derived. (Thus If X x100/y = 10% and y = 100,000; then X = 10,000; where X is the numerator of people in need and y is the denominator of total population.)

11 Data are missing for nine countries: Bahrain, Marshall Islands, Federated States of Micronesia, Nauru, Palau, Papua New Guinea, Singapore, Tonga and Tuvalu.

12 Data are missing for two countries: Lesotho and Tuvalu.

13 Data are missing for eight countries: Antigua and Barbuda, Bahrain, Brunei Darussalam, Nauru, St Vincent and the Grenadines, Seychelles, St Lucia and Timor-Leste.

14 Data are missing for eight countries: Antigua and Barbuda, Bahrain, Brunei Darussalam, Nauru, St Lucia, St Vincent and the Grenadines, Seychelles and Timor-Leste.

15 This analysis is for all 46 states in the denominator, including those which have missing data.

16 See, for example, UNDP (2004), Jamaica MDG Report, Country reports, p. 50, available at www.undp.org/mdg (accessed in February 2007).

17 Winters, L A and Martins, P M G (2004), Beautiful But Costly: Business Costs In Small Remote Economies, Commonwealth Secretariat, London.

18 Guyana is included in the UN list of SIDS as a low-lying state.